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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,718	04/13/2004	Bradley Charles Jones	P24330	2868
7055	7590	06/06/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			KASZTEJNA, MATTHEW JOHN	
			ART UNIT	PAPER NUMBER

3739

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/822,718

Applicant(s)

JONES ET AL.

Examiner

Matthew J. Kasztejna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-28 and 30-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-28 and 30-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Notice of Amendment*

In response to the amendment filed on March 14, 2006, amended claims 1, 3-6, 8, 11, 18-22, 28 and 30-33 and canceled claims 2 and 29 are acknowledged. All current rejections of the claims are *withdrawn*. The following new grounds of rejection are set forth:

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-12, 15-28 and <sup>30-33</sup>~~33~~ are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,930,494 to Takehana et al.

In regards to claims 1, 20-21, 28 and 33, Takehana et al. disclose a position control apparatus for controlling position along a depth or z axis, comprising: an extensible member 15a-b that can be extended and contracted along the axis, comprising shape memory alloy configured and positioned to expand and contract linearly along the axis; a heater 14 for controlling the temperature of the shape memory alloy (see Col. 4, Lines 5-54); and a feedback mechanism 11 and 6 for controlling the heating means and responsive to variations in the position; wherein the position is controllable by heater and the position can be stabilized (see Col. 7, Lines 15-45 and Fig. 1). Furthermore, Takehana et al. disclose an optical fiber for providing illuminating

light; a light condenser for focusing the illuminating light to an observational field; in addition to the position control apparatus for controlling the position of the observational field (see Fig. 2). The apparatus of Takehana et al. is considered inherently capable of performing the recited method claims.

**In regards to claims 3-5 and 30-32**, Takehana et al. disclose a position control apparatus, further comprising a biaser for opposing either the expansion or contraction of said shape memory alloy, wherein the biaser is opposed to the contraction of said shape memory alloy and is a spring 17 (see Fig. 5).

**In regards to claim 6**, Takehana et al. disclose a position control apparatus, wherein the feedback mechanism comprises a feedback sensor for sensing the position of the apparatus and providing an output directed to the heater to modify the heat applied to the shape memory alloy (see Figs. 1 and 5-6).

**In regards to claim 7**, Takehana et al. disclose a position control apparatus, wherein the feedback mechanism comprises a plurality of feedback sensors 5, 6 and 11 (see Fig. 1).

**In regards to claim 8**, Takehana et al. disclose a position control apparatus, wherein the heater comprises a source of electrical current for heating the shape memory alloy (see Fig. 1).

**In regards to claims 9-11**, Takehana et al. disclose a position control apparatus, wherein the source of electrical current is arranged to heat the shape memory alloy by passing the electrical current through the shape memory alloy and wherein the electrical current is a pulse width modulated current (see Fig. 2).

**In regards to claim 12**, Takehana et al. disclose a position control apparatus, wherein the feedback mechanism comprises a variable resistance sensor 11 (see Col. 8, Lines 44-60).

**In regards to claims 15-16**, Takehana et al. disclose a position control apparatus, further comprising an elongate member 35 for securing the shape memory alloy to the apparatus, wherein the elongate member is longitudinally substantially rigid and laterally flexible (see Col. 11, Lines 10-60).

**In regards to claims 17 and 23**, Takehana et al. disclose a position control apparatus, wherein the extensible member is one of a plurality (see Col. 7, Lines 15-43).

**In regards to claim 18**, Takehana et al. disclose a position control apparatus, further comprising a flexible printed circuit board arranged between and attached to two portions of the apparatus whose separation varies as the position is varied, to flex as the separation varies (see Fig. 1).

**In regards to claim 19**, Takehana et al. disclose a position control apparatus, further comprising a home adjustment mechanism for setting a desired home position in the direction of the axis, such that subsequent adjustment of the position is relative to the home position (see Col. 4, Lines 1-54).

**In regards to claim 22**, Takehana et al. disclose a position control apparatus, wherein the endoscope includes an x-y scan mechanism incorporating the exit aperture, wherein the x-y scan mechanism is adjustable in position by means of the position control apparatus (see Figs. 23 and 29-30).

**In regards to claims 24-27**, Takehana et al. disclose a position control apparatus for use with an endoscope which is inherently capable of being any one of a confocal endoscope, endomicroscope, microscope or colonoscope as it is well known in the art.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,930,494 to Takehana et al. in view of International Publication No. WO 00/75712 to Harris et al.

**In regards to claim 13**, Takehana et al. disclose a position control apparatus for controlling position along an axis and a feedback mechanism but is silent with respect to wherein a capacitive sensor comprising a double wire coil capacitive sensor, wherein the separation of the coils of the double wire coil capacitive sensor varies according to the position of the apparatus thereby varying the output of the sensor. Harris et al. teach of an analogous medical apparatus wherein a series of capacitive sensors may be used for obtaining a feedback signal for the drive circuit. As a tune moves the pick-up signal is modulated, and the detected signal is amplified to provide the drive current to the coil. It would have been obvious to one skilled in the art at the time the invention was made to use a capacitive sensor in the apparatus of Takehana et al. to allow for a

more practical method for obtaining feedback from the drive mechanism as taught by Harris et al.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,930,494 to Takehana et al. in view of U.S. Patent No. 4,450,937 to Asars.

**In regards to claim 14**, Takehana et al. disclose a position control apparatus for controlling position along an axis and a feedback mechanism but is silent with respect to wherein the feedback mechanism comprises an optical sensor comprising a pulsed red Light Emitting Diode and a Phase Locked Amplifying detecting diode. Asars teaches of electronic circuitry with self-calibrating feedback for use with an optical current sensor having both a pulsed light emitting diode and a phase locked amplifying detecting diode (see Fig. 2). It would have been obvious to one skilled in the art at the time the invention was made to use an optical sensor in the apparatus of Takehana et al. to ensure the feedback signal has a large dynamic range as well as excellent temporal and thermal stability to meet the requirements for most metering, protection, and control applications as taught by Asars.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's arguments, the recitation "for controlling position along a depth or z axis" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where

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the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Furthermore, even is patentable weight is given to the phrase, Takehana et al. disclose an apparatus which provides control of a position along a depth or z-axis. The bending of the insertion tube 1 can be controlled through shape memory alloys 15a and 15b. Thus, as the insertion tube 1 is bent it changes position along the z-axis and ultimately, as broadly as claimed, the controller has control of the apparatus position along the depth axis.

Applicant states that Takehana et al. fails to disclose a shape memory alloy which expands and contracts linearly along an axis. However, the coils 15a and 15b expand and contract along the z-axis when heat is passed through, as is well-known in the art of shape memory alloys. To bend the insertion tube in a desired direction, one or more of the coils must contract while one or more of the remaining coils will expand, to allow for bending.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Kasztejna whose telephone number is (571) 272-6086. The examiner can normally be reached on Mon-Fri, 8:30-6:00.

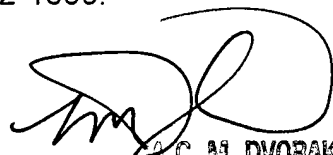
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJK

5/25/06

*MJK*

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